INORGANIC DATA VALIDATION REPORT

To: U.S. Environmental Protection Agency Region 9
Validated by: Diane Quigley, Weston Solutions, Inc.
Report Date: August 11, 2015
Project/Site: Gold King Mine Emergency Response
Laboratory No: 680-115416-1

This memo presents the inorganic data validation report for the data obtained during the field activities for the above referenced work assignment. The purpose of this review is to provide a Stage 2A validation of the following samples collected on August 8, 2015, and analyzed by TestAmerica Laboratories, Inc. located in Savannah, GA:

Field Sample Numbers	Laboratory ID	Analyses/Methods
SJLP-080815-11	680-115416-1	TAL Metals plus Mo by EPA 200.7 and 200.8 Mercury by EPA 245.1 Hardness (calculation) by SM2340B TSS by SM2540D TDS by SM2540C Alkalinity by SM2320B pH by SM4500H+B
SJFP-080815-11	680-115416-2	
SJHB-080815-11	680-115416-3	
SJSR-080815-11	680-115416-4	
10_25_20150807-RS	680-115416-5	

Mo = Molybdenum
SM = Standard Methods for the Evaluation of Water & Wastewater
TAL = Target Analyte List
TDS = Total Dissolved Solids
TSS = Total Suspended Solids

Data validation was conducted in accordance with the EPA National Functional Guidelines for Inorganic Superfund Analyses, August 2014 (NFG); Test Methods for Evaluating Solid Wastes, SW-846, 3rd Edition and Updates; and other applicable EPA methods.

Stage 2A validation was performed on the sample results. The data were evaluated based on the following parameters:

*	Data Completeness
	Holding Times, Sample Preservation and Receipt
*	Laboratory Blanks
NA	Field Blanks
	Matrix Spike/Matrix Spike Duplicates
*	Laboratory Duplicate Samples
*	Laboratory Control Samples (Blank Spikes)
*	Total vs. Dissolved Metals Results Evaluation
NA	Field Duplicates
*	Serial Dilution
NA	Sample Dilutions and Detection Limits

□	**All criteria were met for this parameter**
NA	**Not applicable**

Data Completeness

The Level 2 data package was complete and included a case narrative, sample results, batch quality control (QC) results, QC association summary, chain-of-custody forms, and a sample receipt condition form. Raw data is not required for a Level 2 data package.

Holding Times, Sample Preservation and Receipt

Surface water samples were analyzed for pH two days after sampling. Results for pH were flagged by the lab with an "HF" which indicates the samples were analyzed out of the 15 minute field holding time. The pH results for water samples were estimated (J) since they were analyzed past the recommended holding time. All other holding times were met.

The samples were received within the recommended ≤6□C NFG QC limit. No shipping or receiving problems were noted.

Laboratory Blanks

The method blanks (MB) were analyzed at the required frequency. No contaminants were found in these blanks.

Field Blanks

No field blanks were submitted with these samples.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed (on sample SJLP-080815-11) for all analyses except alkalinity, TSS, and TDS.

Spike recoveries met the 75-125 percent recovery (%R) metals criteria and the 20% Relative Percent Difference (RPD) criteria from the NFG except for the following:

- Several analyte spike recoveries (Al, Ba, Ca, Fe, Mg, K and Na) for sample SJLP-080815-11 were outside QC limits in the MS and MSD. Since the laboratory qualified these results with a "4" indicating the parent sample concentrations were greater than four times the spiked amount, no qualifications are necessary.
- Antimony (38/38%) and Zinc (-/67%) recoveries were below QC limits for sample SJLP-080815-11 in the MS and MSD. The positive antimony and zinc results were estimated J- in all samples due to potential low bias. Quantitation limits for non-detected results were flagged "UJ" as estimated.

Laboratory Duplicate Samples

Total alkalinity, pH and TSS laboratory duplicate analyses were performed on sample SJFP-080815-11. A laboratory duplicate was not presented for TDS analysis.

Duplicate precision criteria were met for laboratory duplicate sample results greater than five times the reporting limit (RL). RPDs were less than 20% for aqueous samples. For sample results less than five times the RL, the absolute difference between the laboratory duplicate and the original sample was less than the RL.

Laboratory Control Samples (Blank Spikes)

At least one laboratory control sample (LCS) analysis was analyzed per QC batch and, for some analyses, a duplicate LCS (LCSD) was also analyzed. All LCS analyte recoveries were within 70-130%R NFG control limit for metals and mercury and within the 20% RPD NFG control limit for metals and mercury. Recoveries were within the lab control limits for wet chemistry parameters.

Total vs. Dissolved Metals Results Evaluation

Total Metals results were greater than the Dissolved Metals results and/or within the 10%D QC limits for all metals analytes except for the following:

Sample ID	Analyte	Total Conc.	Dissolved Conc.	%D	Qualifier
SJSR-080815-11	Mo	1.2 µg/L	1.6 µg/L	33%	J

Sample results were qualified as indicated above.

Field Duplicates

No field duplicates were submitted with this data set.

Sample Dilution and Detection Limits

The laboratory correctly "J" flagged results less than the reporting limits. The data validator retained the J qualifier unless the analyte was qualified as non-detected for blank contamination.

Raw data were not provided or evaluated for this Level 2 package to verify results and analytical dilution.

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

J - The associated numerical value is an estimated quantity because the Quality Control criteria were not met.

J- - The associated numerical value is estimated with a low bias because the Quality Control criteria were not met.

UJ - The reported quantitation limit is estimated because Quality Control criteria were not met. Element or compound was not detected.

U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

ATTACHMENT
RESULTS SUMMARY SHEETS WITH QUALIFIERS

Client: Weston Solutions, Inc.
Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Client Sample ID: SJLP-080815-11
Date Collected: 08/08/15 15:32
Date Received: 08/10/15 07:45

Lab Sample ID: 680-115416-1
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**28000**		200	24	ug/L		08/10/15 09:56	08/10/15 15:22	1
Calcium	**64000**		500	25	ug/L		08/10/15 09:56	08/10/15 15:22	1
Iron	**29000**		50	17	ug/L		08/10/15 09:56	08/10/15 15:22	1
Magnesium	**12000**		500	33	ug/L		08/10/15 09:56	08/10/15 15:22	1
Potassium	**8100**		1000	17	ug/L		08/10/15 09:56	08/10/15 15:22	1
Sodium	**21000**		1000	480	ug/L		08/10/15 09:56	08/10/15 15:22	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	24	U	200	24	ug/L		08/10/15 09:56	08/10/15 16:52	1
Calcium, Dissolved	**47000**		500	25	ug/L		08/10/15 09:56	08/10/15 16:52	1
Iron, Dissolved	**18**	J	50	17	ug/L		08/10/15 09:56	08/10/15 16:52	1
Potassium, Dissolved	**2400**		1000	17	ug/L		08/10/15 09:56	08/10/15 16:52	1
Magnesium, Dissolved	**6100**		500	33	ug/L		08/10/15 09:56	08/10/15 16:52	1
Sodium, Dissolved	**19000**		1000	480	ug/L		08/10/15 09:56	08/10/15 16:52	1

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.40	U F1 UJ	1.0	0.40	ug/L		08/10/15 09:56	08/11/15 09:29	1
Arsenic	**11**		1.0	0.37	ug/L		08/10/15 09:56	08/11/15 09:29	1
Barium	**490**		2.0	0.14	ug/L		08/10/15 09:56	08/11/15 09:29	1
Beryllium	**1.4**		0.40	0.15	ug/L		08/10/15 09:56	08/11/15 09:29	1
Cadmium	**0.35**		0.10	0.043	ug/L		08/10/15 09:56	08/11/15 09:29	1
Chromium	**14**		2.0	1.0	ug/L		08/10/15 09:56	08/11/15 09:29	1
Cobalt	**9.9**		0.40	0.12	ug/L		08/10/15 09:56	08/11/15 09:29	1
Copper	**42**		1.0	0.50	ug/L		08/10/15 09:56	08/11/15 09:29	1
Lead	**150**		0.30	0.060	ug/L		08/10/15 09:56	08/11/15 09:29	1
Manganese	**570**		2.5	1.2	ug/L		08/10/15 09:56	08/11/15 09:29	1
Nickel	**13**		1.0	0.40	ug/L		08/10/15 09:56	08/11/15 09:29	1
Selenium	**0.74**	J	2.0	0.58	ug/L		08/10/15 09:56	08/11/15 09:29	1
Silver	**0.96**	J	1.0	0.10	ug/L		08/10/15 09:56	08/11/15 09:29	1
Thallium	**0.30**		0.20	0.10	ug/L		08/10/15 09:56	08/11/15 09:29	1
Vanadium	**34**		1.0	0.30	ug/L		08/10/15 09:56	08/11/15 09:29	1
Zinc	**130**	F1 J-	20	2.8	ug/L		08/10/15 09:56	08/11/15 09:29	1
Molybdenum	**2.4**		1.0	0.45	ug/L		08/10/15 09:56	08/11/15 09:29	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Dissolved	0.40	U UJ	1.0	0.40	ug/L		08/10/15 09:56	08/11/15 11:11	1
Arsenic, Dissolved	0.37	U	1.0	0.37	ug/L		08/10/15 09:56	08/11/15 11:11	1
Barium, Dissolved	**61**		2.0	0.14	ug/L		08/10/15 09:56	08/11/15 11:11	1
Beryllium, Dissolved	0.15	U	0.40	0.15	ug/L		08/10/15 09:56	08/11/15 11:11	1
Cadmium, Dissolved	0.043	U	0.10	0.043	ug/L		08/10/15 09:56	08/11/15 11:11	1
Chromium, Dissolved	1.0	U	2.0	1.0	ug/L		08/10/15 09:56	08/11/15 11:11	1
Cobalt, Dissolved	**0.12**	J	0.40	0.12	ug/L		08/10/15 09:56	08/11/15 11:11	1
Copper, Dissolved	**1.5**		1.0	0.50	ug/L		08/10/15 09:56	08/11/15 11:11	1
Lead, Dissolved	**0.094**	J	0.30	0.060	ug/L		08/10/15 09:56	08/11/15 11:11	1
Manganese, Dissolved	**5.8**		2.5	1.2	ug/L		08/10/15 09:56	08/11/15 11:11	1
Molybdenum, Dissolved	**1.6**		1.0	0.45	ug/L		08/10/15 09:56	08/11/15 11:11	1
Nickel, Dissolved	**1.1**		1.0	0.40	ug/L		08/10/15 09:56	08/11/15 11:11	1

DQ 8-11-15

Client: Weston Solutions, Inc.
Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Client Sample ID: SJLP-080815-11
Date Collected: 08/08/15 15:32
Date Received: 08/10/15 07:45

Lab Sample ID: 680-115416-1
Matrix: Water

Method: 200.8 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium, Dissolved	0.58	U	2.0	0.58	ug/L		08/10/15 09:56	08/11/15 11:11	1
Silver, Dissolved	0.10	U	1.0	0.10	ug/L		08/10/15 09:56	08/11/15 11:11	1
Thallium, Dissolved	0.10	U	0.20	0.10	ug/L		08/10/15 09:56	08/11/15 11:11	1
Vanadium, Dissolved	**0.35**	**J**	1.0	0.30	ug/L		08/10/15 09:56	08/11/15 11:11	1
Zinc, Dissolved	2.8	U UJ	20	2.8	ug/L		08/10/15 09:56	08/11/15 11:11	1

Method: 2340B-2011 - Total Hardness (as CaCO3) by calculation

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Hardness	**210**		3.3	3.3	mg/L			08/10/15 15:22	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	ug/L		08/10/15 09:17	08/10/15 15:21	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.080	U	0.20	0.080	ug/L		08/10/15 12:21	08/10/15 16:28	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.05	HF J			SU			08/10/15 16:07	1
Analyte	**Result**	**Qualifier**	**RL**	**RL**	**Unit**	**D**	**Prepared**	**Analyzed**	**Dil Fac**
Alkalinity	**86**		5.0	5.0	mg/L			08/10/15 16:07	1
Total Suspended Solids	**1300**		20	20	mg/L			08/10/15 09:56	1
Total Dissolved Solids	**250**		10	10	mg/L			08/10/15 11:46	1

LH 4n DQ
8-11-15

Client: Weston Solutions, Inc.
Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Client Sample ID: SJFP-080815-11
Date Collected: 08/08/15 18:40
Date Received: 08/10/15 07:45

Lab Sample ID: 680-115416-2
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**22000**		200	24	ug/L		08/10/15 09:56	08/10/15 15:33	1
Calcium	**60000**		500	25	ug/L		08/10/15 09:56	08/10/15 15:33	1
Iron	**25000**		50	17	ug/L		08/10/15 09:56	08/10/15 15:33	1
Magnesium	**10000**		500	33	ug/L		08/10/15 09:56	08/10/15 15:33	1
Potassium	**7000**		1000	17	ug/L		08/10/15 09:56	08/10/15 15:33	1
Sodium	**22000**		1000	480	ug/L		08/10/15 09:56	08/10/15 15:33	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	24	U	200	24	ug/L		08/10/15 09:56	08/10/15 16:55	1
Calcium, Dissolved	**50000**		500	25	ug/L		08/10/15 09:56	08/10/15 16:55	1
Iron, Dissolved	17	U	50	17	ug/L		08/10/15 09:56	08/10/15 16:55	1
Potassium, Dissolved	**2400**		1000	17	ug/L		08/10/15 09:56	08/10/15 16:55	1
Magnesium, Dissolved	**6400**		500	33	ug/L		08/10/15 09:56	08/10/15 16:55	1
Sodium, Dissolved	**20000**		1000	480	ug/L		08/10/15 09:56	08/10/15 16:55	1

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.59**	J J-	1.0	0.40	ug/L		08/10/15 09:56	08/11/15 09:50	1
Arsenic	**11**		1.0	0.37	ug/L		08/10/15 09:56	08/11/15 09:50	1
Barium	**260**		2.0	0.14	ug/L		08/10/15 09:56	08/11/15 09:50	1
Beryllium	**0.97**		0.40	0.15	ug/L		08/10/15 09:56	08/11/15 09:50	1
Cadmium	**0.39**		0.10	0.043	ug/L		08/10/15 09:56	08/11/15 09:50	1
Chromium	**9.9**		2.0	1.0	ug/L		08/10/15 09:56	08/11/15 09:50	1
Cobalt	**6.1**		0.40	0.12	ug/L		08/10/15 09:56	08/11/15 09:50	1
Copper	**46**		1.0	0.50	ug/L		08/10/15 09:56	08/11/15 09:50	1
Lead	**200**		0.30	0.060	ug/L		08/10/15 09:56	08/11/15 09:50	1
Manganese	**380**		2.5	1.2	ug/L		08/10/15 09:56	08/11/15 09:50	1
Nickel	**8.9**		1.0	0.40	ug/L		08/10/15 09:56	08/11/15 09:50	1
Selenium	**0.98**	J	2.0	0.58	ug/L		08/10/15 09:56	08/11/15 09:50	1
Silver	**1.4**		1.0	0.10	ug/L		08/10/15 09:56	08/11/15 09:50	1
Thallium	**0.23**		0.20	0.10	ug/L		08/10/15 09:56	08/11/15 09:50	1
Vanadium	**27**		1.0	0.30	ug/L		08/10/15 09:56	08/11/15 09:50	1
Zinc	**130**	J-	20	2.8	ug/L		08/10/15 09:56	08/11/15 09:50	1
Molybdenum	**3.2**		1.0	0.45	ug/L		08/10/15 09:56	08/11/15 09:50	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Dissolved	0.40	U UJ	1.0	0.40	ug/L		08/10/15 09:56	08/11/15 11:15	1
Arsenic, Dissolved	0.37	U	1.0	0.37	ug/L		08/10/15 09:56	08/11/15 11:15	1
Barium, Dissolved	**66**		2.0	0.14	ug/L		08/10/15 09:56	08/11/15 11:15	1
Beryllium, Dissolved	0.15	U	0.40	0.15	ug/L		08/10/15 09:56	08/11/15 11:15	1
Cadmium, Dissolved	0.043	U	0.10	0.043	ug/L		08/10/15 09:56	08/11/15 11:15	1
Chromium, Dissolved	1.0	U	2.0	1.0	ug/L		08/10/15 09:56	08/11/15 11:15	1
Cobalt, Dissolved	**0.13**	J	0.40	0.12	ug/L		08/10/15 09:56	08/11/15 11:15	1
Copper, Dissolved	**1.5**		1.0	0.50	ug/L		08/10/15 09:56	08/11/15 11:15	1
Lead, Dissolved	0.060	U	0.30	0.060	ug/L		08/10/15 09:56	08/11/15 11:15	1
Manganese, Dissolved	**4.6**		2.5	1.2	ug/L		08/10/15 09:56	08/11/15 11:15	1
Molybdenum, Dissolved	**1.7**		1.0	0.45	ug/L		08/10/15 09:56	08/11/15 11:15	1
Nickel, Dissolved	**1.2**		1.0	0.40	ug/L		08/10/15 09:56	08/11/15 11:15	1

2410370

Client: Weston Solutions, Inc.
Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Client Sample ID: SJFP-080815-11
Date Collected: 08/08/15 18:40
Date Received: 08/10/15 07:45

Lab Sample ID: 680-115416-2
Matrix: Water

Method: 200.8 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium, Dissolved	0.58	U	2.0	0.58	ug/L		08/10/15 09:56	08/11/15 11:15	1
Silver, Dissolved	0.10	U	1.0	0.10	ug/L		08/10/15 09:56	08/11/15 11:15	1
Thallium, Dissolved	0.10	U	0.20	0.10	ug/L		08/10/15 09:56	08/11/15 11:15	1
Vanadium, Dissolved	0.30	U	1.0	0.30	ug/L		08/10/15 09:56	08/11/15 11:15	1
Zinc, Dissolved	2.8	U UJ	20	2.8	ug/L		08/10/15 09:56	08/11/15 11:15	1

Method: 2340B-2011 - Total Hardness (as CaCO3) by calculation

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Hardness	**190**		3.3	3.3	mg/L			08/10/15 15:33	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	ug/L		08/10/15 09:17	08/10/15 15:30	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.080	U	0.20	0.080	ug/L		08/10/15 12:21	08/10/15 16:31	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.06**	HF J			SU			08/10/15 16:14	1
Analyte	**Result**	**Qualifier**	**RL**	**RL**	**Unit**	**D**	**Prepared**	**Analyzed**	**Dil Fac**
Alkalinity	**84**		5.0	5.0	mg/L			08/10/15 16:14	1
Total Suspended Solids	**680**		20	20	mg/L			08/11/15 08:37	1
Total Dissolved Solids	**290**		10	10	mg/L			08/10/15 11:46	1

KM DQ 8-11-15

Client: Weston Solutions, Inc.
Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Client Sample ID: SJHB-080815-11
Date Collected: 08/08/15 19:10
Date Received: 08/10/15 07:45

Lab Sample ID: 680-115416-3
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**30000**		200	24	ug/L		08/10/15 09:56	08/10/15 15:37	1
Calcium	**77000**		500	25	ug/L		08/10/15 09:56	08/10/15 15:37	1
Iron	**36000**		50	17	ug/L		08/10/15 09:56	08/10/15 15:37	1
Magnesium	**13000**		500	33	ug/L		08/10/15 09:56	08/10/15 15:37	1
Potassium	**8700**		1000	17	ug/L		08/10/15 09:56	08/10/15 15:37	1
Sodium	**23000**		1000	480	ug/L		08/10/15 09:56	08/10/15 15:37	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	24	U	200	24	ug/L		08/10/15 09:56	08/10/15 16:59	1
Calcium, Dissolved	**54000**		500	25	ug/L		08/10/15 09:56	08/10/15 16:59	1
Iron, Dissolved	17	U	50	17	ug/L		08/10/15 09:56	08/10/15 16:59	1
Potassium, Dissolved	**2500**		1000	17	ug/L		08/10/15 09:56	08/10/15 16:59	1
Magnesium, Dissolved	**6900**		500	33	ug/L		08/10/15 09:56	08/10/15 16:59	1
Sodium, Dissolved	**22000**		1000	480	ug/L		08/10/15 09:56	08/10/15 16:59	1

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.51**	J J-	1.0	0.40	ug/L		08/10/15 09:56	08/11/15 09:54	1
Arsenic	**14**		1.0	0.37	ug/L		08/10/15 09:56	08/11/15 09:54	1
Barium	**570**		2.0	0.14	ug/L		08/10/15 09:56	08/11/15 09:54	1
Beryllium	**1.8**		0.40	0.15	ug/L		08/10/15 09:56	08/11/15 09:54	1
Cadmium	**0.51**		0.10	0.043	ug/L		08/10/15 09:56	08/11/15 09:54	1
Chromium	**16**		2.0	1.0	ug/L		08/10/15 09:56	08/11/15 09:54	1
Cobalt	**13**		0.40	0.12	ug/L		08/10/15 09:56	08/11/15 09:54	1
Copper	**61**		1.0	0.50	ug/L		08/10/15 09:56	08/11/15 09:54	1
Lead	**250**		0.30	0.060	ug/L		08/10/15 09:56	08/11/15 09:54	1
Manganese	**940**		2.5	1.2	ug/L		08/10/15 09:56	08/11/15 09:54	1
Nickel	**16**		1.0	0.40	ug/L		08/10/15 09:56	08/11/15 09:54	1
Selenium	**1.5**	J	2.0	0.58	ug/L		08/10/15 09:56	08/11/15 09:54	1
Silver	**1.6**		1.0	0.10	ug/L		08/10/15 09:56	08/11/15 09:54	1
Thallium	**0.35**		0.20	0.10	ug/L		08/10/15 09:56	08/11/15 09:54	1
Vanadium	**41**		1.0	0.30	ug/L		08/10/15 09:56	08/11/15 09:54	1
Zinc	**170**	J-	20	2.8	ug/L		08/10/15 09:56	08/11/15 09:54	1
Molybdenum	**3.0**		1.0	0.45	ug/L		08/10/15 09:56	08/11/15 09:54	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Dissolved	0.40	U UJ	1.0	0.40	ug/L		08/10/15 09:56	08/11/15 11:20	1
Arsenic, Dissolved	0.37	U	1.0	0.37	ug/L		08/10/15 09:56	08/11/15 11:20	1
Barium, Dissolved	**67**		2.0	0.14	ug/L		08/10/15 09:56	08/11/15 11:20	1
Beryllium, Dissolved	0.15	U	0.40	0.15	ug/L		08/10/15 09:56	08/11/15 11:20	1
Cadmium, Dissolved	0.043	U	0.10	0.043	ug/L		08/10/15 09:56	08/11/15 11:20	1
Chromium, Dissolved	1.0	U	2.0	1.0	ug/L		08/10/15 09:56	08/11/15 11:20	1
Cobalt, Dissolved	0.12	U	0.40	0.12	ug/L		08/10/15 09:56	08/11/15 11:20	1
Copper, Dissolved	**1.7**		1.0	0.50	ug/L		08/10/15 09:56	08/11/15 11:20	1
Lead, Dissolved	0.060	U	0.30	0.060	ug/L		08/10/15 09:56	08/11/15 11:20	1
Manganese, Dissolved	**1.2**	J	2.5	1.2	ug/L		08/10/15 09:56	08/11/15 11:20	1
Molybdenum, Dissolved	**1.8**		1.0	0.45	ug/L		08/10/15 09:56	08/11/15 11:20	1
Nickel, Dissolved	**1.1**		1.0	0.40	ug/L		08/10/15 09:56	08/11/15 11:20	1

DQ 8-11-15

Client: Weston Solutions, Inc.
Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Client Sample ID: SJHB-080815-11
Date Collected: 08/08/15 19:10
Date Received: 08/10/15 07:45

Lab Sample ID: 680-115416-3
Matrix: Water

Method: 200.8 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium, Dissolved	0.58	U	2.0	0.58	ug/L		08/10/15 09:56	08/11/15 11:20	1
Silver, Dissolved	0.10	U	1.0	0.10	ug/L		08/10/15 09:56	08/11/15 11:20	1
Thallium, Dissolved	0.10	U	0.20	0.10	ug/L		08/10/15 09:56	08/11/15 11:20	1
Vanadium, Dissolved	**0.34**	**J**	1.0	0.30	ug/L		08/10/15 09:56	08/11/15 11:20	1
Zinc, Dissolved	2.8	U UJ	20	2.8	ug/L		08/10/15 09:56	08/11/15 11:20	1

Method: 2340B-2011 - Total Hardness (as CaCO3) by calculation

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Hardness	**250**		3.3	3.3	mg/L			08/10/15 15:37	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	ug/L		08/10/15 09:17	08/10/15 15:33	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.080	U	0.20	0.080	ug/L		08/10/15 12:21	08/10/15 16:35	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.99**	**HF J**			SU			08/10/15 16:32	1
Analyte	**Result**	**Qualifier**	**RL**	**RL**	**Unit**	**D**	**Prepared**	**Analyzed**	**Dil Fac**
Alkalinity	**82**		5.0	5.0	mg/L			08/10/15 16:32	1
Total Suspended Solids	**2900**		33	33	mg/L			08/11/15 08:37	1
Total Dissolved Solids	**290**		10	10	mg/L			08/10/15 11:46	1

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DQ
8-11-15

Client: Weston Solutions, Inc.
Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Client Sample ID: SJSR-080815-11
Date Collected: 08/08/15 19:34
Date Received: 08/10/15 07:45

Lab Sample ID: 680-115416-4
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	42000		200	24	ug/L		08/10/15 09:56	08/10/15 15:41	1
Calcium	74000		500	25	ug/L		08/10/15 09:56	08/10/15 15:41	1
Iron	36000		50	17	ug/L		08/10/15 09:56	08/10/15 15:41	1
Magnesium	16000		500	33	ug/L		08/10/15 09:56	08/10/15 15:41	1
Potassium	9500		1000	17	ug/L		08/10/15 09:56	08/10/15 15:41	1
Sodium	28000		1000	480	ug/L		08/10/15 09:56	08/10/15 15:41	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	610		200	24	ug/L		08/10/15 09:56	08/10/15 17:03	1
Calcium, Dissolved	50000		500	25	ug/L		08/10/15 09:56	08/10/15 17:03	1
Iron, Dissolved	360		50	17	ug/L		08/10/15 09:56	08/10/15 17:03	1
Potassium, Dissolved	2600		1000	17	ug/L		08/10/15 09:56	08/10/15 17:03	1
Magnesium, Dissolved	6400		500	33	ug/L		08/10/15 09:56	08/10/15 17:03	1
Sodium, Dissolved	25000		1000	480	ug/L		08/10/15 09:56	08/10/15 17:03	1

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.40	U UJ	1.0	0.40	ug/L		08/10/15 09:56	08/11/15 10:07	1
Arsenic	7.2		1.0	0.37	ug/L		08/10/15 09:56	08/11/15 10:07	1
Barium	640		2.0	0.14	ug/L		08/10/15 09:56	08/11/15 10:07	1
Beryllium	2.3		0.40	0.15	ug/L		08/10/15 09:56	08/11/15 10:07	1
Cadmium	0.19		0.10	0.043	ug/L		08/10/15 09:56	08/11/15 10:07	1
Chromium	22		2.0	1.0	ug/L		08/10/15 09:56	08/11/15 10:07	1
Cobalt	17		0.40	0.12	ug/L		08/10/15 09:56	08/11/15 10:07	1
Copper	36		1.0	0.50	ug/L		08/10/15 09:56	08/11/15 10:07	1
Lead	32		0.30	0.060	ug/L		08/10/15 09:56	08/11/15 10:07	1
Manganese	810		2.5	1.2	ug/L		08/10/15 09:56	08/11/15 10:07	1
Nickel	22		1.0	0.40	ug/L		08/10/15 09:56	08/11/15 10:07	1
Selenium	1.3	J	2.0	0.58	ug/L		08/10/15 09:56	08/11/15 10:07	1
Silver	0.12	J	1.0	0.10	ug/L		08/10/15 09:56	08/11/15 10:07	1
Thallium	0.43		0.20	0.10	ug/L		08/10/15 09:56	08/11/15 10:07	1
Vanadium	50		1.0	0.30	ug/L		08/10/15 09:56	08/11/15 10:07	1
Zinc	100	J-	20	2.8	ug/L		08/10/15 09:56	08/11/15 10:07	1
Molybdenum	1.2	J	1.0	0.45	ug/L		08/10/15 09:56	08/11/15 10:07	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Dissolved	0.40	U UJ	1.0	0.40	ug/L		08/10/15 09:56	08/11/15 11:24	1
Arsenic, Dissolved	0.84	J	1.0	0.37	ug/L		08/10/15 09:56	08/11/15 11:24	1
Barium, Dissolved	68		2.0	0.14	ug/L		08/10/15 09:56	08/11/15 11:24	1
Beryllium, Dissolved	0.15	U	0.40	0.15	ug/L		08/10/15 09:56	08/11/15 11:24	1
Cadmium, Dissolved	0.043	U	0.10	0.043	ug/L		08/10/15 09:56	08/11/15 11:24	1
Chromium, Dissolved	1.0	U	2.0	1.0	ug/L		08/10/15 09:56	08/11/15 11:24	1
Cobalt, Dissolved	0.29	J	0.40	0.12	ug/L		08/10/15 09:56	08/11/15 11:24	1
Copper, Dissolved	2.1		1.0	0.50	ug/L		08/10/15 09:56	08/11/15 11:24	1
Lead, Dissolved	0.51		0.30	0.060	ug/L		08/10/15 09:56	08/11/15 11:24	1
Manganese, Dissolved	13		2.5	1.2	ug/L		08/10/15 09:56	08/11/15 11:24	1
Molybdenum, Dissolved	1.6	J	1.0	0.45	ug/L		08/10/15 09:56	08/11/15 11:24	1
Nickel, Dissolved	1.4		1.0	0.40	ug/L		08/10/15 09:56	08/11/15 11:24	1

Client: Weston Solutions, Inc.
Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Client Sample ID: SJSR-080815-11
Date Collected: 08/08/15 19:34
Date Received: 08/10/15 07:45

Lab Sample ID: 680-115416-4
Matrix: Water

Method: 200.8 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium, Dissolved	0.58	U	2.0	0.58	ug/L		08/10/15 09:56	08/11/15 11:24	1
Silver, Dissolved	0.10	U	1.0	0.10	ug/L		08/10/15 09:56	08/11/15 11:24	1
Thallium, Dissolved	0.10	U	0.20	0.10	ug/L		08/10/15 09:56	08/11/15 11:24	1
Vanadium, Dissolved	**2.0**		1.0	0.30	ug/L		08/10/15 09:56	08/11/15 11:24	1
Zinc, Dissolved	**5.1**	J J-	20	2.8	ug/L		08/10/15 09:56	08/11/15 11:24	1

Method: 2340B-2011 - Total Hardness (as CaCO3) by calculation

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Hardness	**250**		3.3	3.3	mg/L			08/10/15 15:41	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	ug/L		08/10/15 09:17	08/10/15 15:36	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.080	U	0.20	0.080	ug/L		08/10/15 12:21	08/10/15 16:38	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.10**	HF J			SU			08/10/15 16:38	1
Analyte	**Result**	**Qualifier**	**RL**	**RL**	**Unit**	**D**	**Prepared**	**Analyzed**	**Dil Fac**
Alkalinity	**94**		5.0	5.0	mg/L			08/10/15 16:38	1
Total Suspended Solids	**2600**		33	33	mg/L			08/11/15 08:37	1
Total Dissolved Solids	**290**		10	10	mg/L			08/10/15 11:46	1

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8-11-15

Client: Weston Solutions, Inc.
Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Client Sample ID: 10-25_20150807_RS
Date Collected: 08/07/15 11:30
Date Received: 08/10/15 07:45

Lab Sample ID: 680-115416-5
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**21000**		200	24	ug/L		08/10/15 09:56	08/10/15 15:45	1
Calcium	**68000**		500	25	ug/L		08/10/15 09:56	08/10/15 15:45	1
Iron	**16000**		50	17	ug/L		08/10/15 09:56	08/10/15 15:45	1
Magnesium	**12000**		500	33	ug/L		08/10/15 09:56	08/10/15 15:45	1
Potassium	**6600**		1000	17	ug/L		08/10/15 09:56	08/10/15 15:45	1
Sodium	**25000**		1000	480	ug/L		08/10/15 09:56	08/10/15 15:45	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	24	U	200	24	ug/L		08/10/15 09:56	08/10/15 17:07	1
Calcium, Dissolved	**56000**		500	25	ug/L		08/10/15 09:56	08/10/15 17:07	1
Iron, Dissolved	17	U	50	17	ug/L		08/10/15 09:56	08/10/15 17:07	1
Potassium, Dissolved	**2500**		1000	17	ug/L		08/10/15 09:56	08/10/15 17:07	1
Magnesium, Dissolved	**7300**		500	33	ug/L		08/10/15 09:56	08/10/15 17:07	1
Sodium, Dissolved	**23000**		1000	480	ug/L		08/10/15 09:56	08/10/15 17:07	1

Method: 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.40	U UJ	1.0	0.40	ug/L		08/10/15 09:56	08/11/15 10:11	1
Arsenic	**3.7**		1.0	0.37	ug/L		08/10/15 09:56	08/11/15 10:11	1
Barium	**330**		2.0	0.14	ug/L		08/10/15 09:56	08/11/15 10:11	1
Beryllium	**0.93**		0.40	0.15	ug/L		08/10/15 09:56	08/11/15 10:11	1
Cadmium	**0.20**		0.10	0.043	ug/L		08/10/15 09:56	08/11/15 10:11	1
Chromium	**11**		2.0	1.0	ug/L		08/10/15 09:56	08/11/15 10:11	1
Cobalt	**7.4**		0.40	0.12	ug/L		08/10/15 09:56	08/11/15 10:11	1
Copper	**17**		1.0	0.50	ug/L		08/10/15 09:56	08/11/15 10:11	1
Lead	**15**		0.30	0.060	ug/L		08/10/15 09:56	08/11/15 10:11	1
Manganese	**390**		2.5	1.2	ug/L		08/10/15 09:56	08/11/15 10:11	1
Nickel	**10**		1.0	0.40	ug/L		08/10/15 09:56	08/11/15 10:11	1
Selenium	**0.74**	J	2.0	0.58	ug/L		08/10/15 09:56	08/11/15 10:11	1
Silver	0.10	U	1.0	0.10	ug/L		08/10/15 09:56	08/11/15 10:11	1
Thallium	**0.18**	J	0.20	0.10	ug/L		08/10/15 09:56	08/11/15 10:11	1
Vanadium	**25**		1.0	0.30	ug/L		08/10/15 09:56	08/11/15 10:11	1
Zinc	**57**	J-	20	2.8	ug/L		08/10/15 09:56	08/11/15 10:11	1
Molybdenum	**1.5**		1.0	0.45	ug/L		08/10/15 09:56	08/11/15 10:11	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony, Dissolved	0.40	U UJ	1.0	0.40	ug/L		08/10/15 09:56	08/11/15 11:28	1
Arsenic, Dissolved	**0.56**	J	1.0	0.37	ug/L		08/10/15 09:56	08/11/15 11:28	1
Barium, Dissolved	**68**		2.0	0.14	ug/L		08/10/15 09:56	08/11/15 11:28	1
Beryllium, Dissolved	0.15	U	0.40	0.15	ug/L		08/10/15 09:56	08/11/15 11:28	1
Cadmium, Dissolved	0.043	U	0.10	0.043	ug/L		08/10/15 09:56	08/11/15 11:28	1
Chromium, Dissolved	1.0	U	2.0	1.0	ug/L		08/10/15 09:56	08/11/15 11:28	1
Cobalt, Dissolved	**0.96**		0.40	0.12	ug/L		08/10/15 09:56	08/11/15 11:28	1
Copper, Dissolved	**1.2**		1.0	0.50	ug/L		08/10/15 09:56	08/11/15 11:28	1
Lead, Dissolved	**0.093**	J	0.30	0.060	ug/L		08/10/15 09:56	08/11/15 11:28	1
Manganese, Dissolved	**3.3**		2.5	1.2	ug/L		08/10/15 09:56	08/11/15 11:28	1
Molybdenum, Dissolved	**1.5**		1.0	0.45	ug/L		08/10/15 09:56	08/11/15 11:28	1
Nickel, Dissolved	**1.0**		1.0	0.40	ug/L		08/10/15 09:56	08/11/15 11:28	1

Client: Weston Solutions, Inc.
Project/Site: Gold King Mine - Region 9

TestAmerica Job ID: 680-115416-1

Client Sample ID: 10-25_20150807_RS
Date Collected: 08/07/15 11:30
Date Received: 08/10/15 07:45

Lab Sample ID: 680-115416-5
Matrix: Water

Method: 200.8 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium, Dissolved	0.58	U	2.0	0.58	ug/L		08/10/15 09:56	08/11/15 11:28	1
Silver, Dissolved	0.10	U	1.0	0.10	ug/L		08/10/15 09:56	08/11/15 11:28	1
Thallium, Dissolved	0.10	U	0.20	0.10	ug/L		08/10/15 09:56	08/11/15 11:28	1
Vanadium, Dissolved	**1.3**		1.0	0.30	ug/L		08/10/15 09:56	08/11/15 11:28	1
Zinc, Dissolved	2.8	U UJ	20	2.8	ug/L		08/10/15 09:56	08/11/15 11:28	1

Method: 2340B-2011 - Total Hardness (as CaCO3) by calculation

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Hardness	**220**		3.3	3.3	mg/L			08/10/15 15:45	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.080	ug/L		08/10/15 09:17	08/10/15 15:39	1

Method: 245.1 - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.080	U	0.20	0.080	ug/L		08/10/15 12:21	08/10/15 16:41	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.18	HF J			SU			08/10/15 16:47	1
Analyte	**Result**	**Qualifier**	**RL**	**RL**	**Unit**	**D**	**Prepared**	**Analyzed**	**Dil Fac**
Alkalinity	110		5.0	5.0	mg/L			08/10/15 16:47	1
Total Suspended Solids	1700		33	33	mg/L			08/11/15 08:37	1
Total Dissolved Solids	290		10	10	mg/L			08/10/15 11:46	1

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8-11-15